



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/560,405

12/12/2005

Isabelle Chartier

034299-678

5533

46188

7590

04/22/2008

THELEN REID BROWN RAYSMAN & STEINER LLP

P. O. BOX 640640

SAN JOSE, CA 95164-0640

EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

04/22/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,405	<b>Applicant(s)</b> CHARTIER ET AL.	
	<b>Examiner</b> John L. Goff	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This action is in response to the amendment filed on 2/4/08.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 103***

3. Claims 1-4 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roitman et al. (US 2003/0017305) in view of Khan et al. (US 2004/0020595) and/or Ringleben et al. (US 2005/0173059) and/or Chen et al. (U.S. Patent 6,251,219) and/or Watanabe et al. (JP 2000-71422 and see also the abstract).

Roitman teaches a process for gluing at least one micro-structured substrate (250) comprising upper coplanar plane areas and recesses (260) in between them the recesses having a width of 10 microns (Figures 7B; section [0075]- first sentence in section [0077]), by means of a glue (270) that can bond to these upper coplanar plane areas. The reference appreciates that a variety of techniques can be used to deposit the glue on the upper coplanar plane areas, including screen printing (section [0080], section [0085]). And, one of ordinary skill in the art would readily appreciate that screen printing is characterized by the use of a screen/grid to deposit adhesive in select locations where the adhesive is forced through openings in the screen/grid by a tool that presses on the screen/grid so as to deposit a film of glue droplets on the select locations following which the screen/grid is removed as evidenced by Khan (Figure 5; section [0020]) and/or Ringleben (Figure 15; section [0037]) and/or Chen (Column 1, lines 26-37) and/or

Art Unit: 1791

Watanabe (Figure 1 and the abstract), it being noted the screens/grids taught by Khan and/or Ringleben and/or Chen and/or Watanabe do not include any additional components such as a mask such that they are considered mask-less screens/grids.

Before depositing the adhesive, Roitman modifies the surface of the upper coplanar plane areas using plasma adhesion enhancement treatment (section [0084]). And, one having ordinary skill in the art would readily appreciate it being well established in the art to use plasma treatment as a means for adapting the wettability of a surface to the material being applied thereto (it being noted that plasma treatment is also the present invention's treatment of choice – p. 13, lines 1-7).

However, it is unclear as to whether the screen/grid contacts the upper coplanar plane areas of Roitman. The teachings of Khan (Figure 5; section [0020]) and/or Ringleben (Figure 15; section [0037]) and/or Chen (Column 1, lines 26-37) and/or Watanabe (Figure 1 and the abstract) also provide evidence that it is known in the art to contact the surface of a substrate, be it flat or micro-structured, with the screen/grid when using a screen printing technique to deposit adhesive in select locations on the surface of the substrate. Therefore, it would have been obvious to one of ordinary skill in the art to contact the upper coplanar plane areas of Roitman with the screen/grid when depositing the glue because such is known in the art, as taught by Khan and/or Ringleben and/or Chen and/or Watanabe to accurately deposit the glue.

As to claim 2, one would readily appreciate it being well known and conventional in the screen printing art to use a doctor blade to press on the grid, as evidenced by Khan (Figure 5; section [0020]) and/or Ringleben (Figure 15; section [0037]) and/or Chen (Column 1, lines 26-37) and/or Watanabe (Figure 1 and the abstract).

As to claim 3, one would readily appreciate that the plasma treatment of Roitman, like that of the present invention, would control spreading of the glue.

As to claim 4, Roitman teaches closing the micro-structured substrate (250) with a closing substrate (255) that is fixed to the upper coplanar plane areas by the glue (Figure 7B; sections 0075-0076]).

As to claim 10, Roitman teaches such (sections [0075-0076]).

As to claims 12 and 15, it would have been obvious to one of ordinary skill in the art that the mask-less screens/grids taught by Khan and/or Ringleben and/or Chen and/or Watanabe are in a screen/grid pattern designed to accurately deposit glue on the coplanar plane areas and prevent glue from entering the recesses as Roitman (260 of Figure 7B) specifically shows the recesses free of the glue. Further, the adhesion enhancement treatment and the mask-less screens/grids taught by Roitman as modified by Khan and/or Ringleben and/or Chen and/or Watanabe are consistent and in agreement with applicants method of preventing glue from entering the recesses such that one of ordinary skill in the art would readily expect Roitman as modified by Khan and/or Ringleben and/or Chen and/or Watanabe to apply the glue the same.

4. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roitman in view of Khan and/or Ringleben and/or Chen and/or Watanabe as applied to claims 1-4 and 10-15 above, and further in view of Eisenbeiss et al. (US 2005/0077175).

As to claim 5-6, providing biological probes in recesses of the micro-structured substrate would have been within purview of one having ordinary skill in the art depending on the intended use of the finished product. However, placement of devices (i.e. probes) within the

Art Unit: 1791

recesses is well known and conventional in the art, as evidenced by Eisenbeiss (section [0032]), and therefore would have been obvious.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roitman in view of Khan and/or Ringleben and/or Chen and/or Watanabe as applied to claims 1-4 and 10-15 above, and further in view of Soane et al. (US 6176962).

As to claim 7, it would have been obvious to provide the closing substrate with drillings through which fluid will be added into the recesses in the micro-structured substrate of Roitman because such is known in the art, as taught by Soane (Figures 5-6; column 5, lines 46-50).

6. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roitman in view of Khan and/or Ringleben and/or Chen and/or Watanabe as applied to claims 1-4 and 10-15 above, and further in view of Lum et al. (US 5932315).

As to claims 8-9, it would have been obvious to form a plurality of bonded micro-structured and closing substrates by bonding one, large micro-structured substrate to one, large closing substrate and then separating the large, bonded substrates into a plurality of smaller, bonded substrates because such is known in the art, as taught by Lum (column 7, lines 36-41), where this allows for mass production of the bonded substrates and hence decreased production time.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

In view of applicants amendment previously applied Sasaki et al. ("Screen Printed Adhesive Technologies for All-Silicon Optical Packaging" – listed in IDS) is withdrawn.

Applicants argue, “In contrast, Roitman merely describes in general terms that screen printing can be used to apply adhesive to the substrate. However, Roitman does not disclose that a mask-less grid is utilized in applying adhesive to the substrate. In fact, one skilled in the art reading Roitman would realize that Roitman does not seek to resolve the problem of preventing glue from entering the recesses in the substrate considering that Roitman mentions that other possible ways of applying the adhesive include “spraying,” “dip-coating,” and “brushing.” These methods mentioned in Roitman certainly do not prevent glue from entering the recesses. Therefore, Roitman does not teach or suggest a mask-less grid, as claimed in Claim 1.”.

Roitman disclose any deposition method may be used and specifically show the glue does not enter the recesses (260 of Figure 7B).

Applicants further argue, “In addition, one skilled in the art combining Roitman with Khan would not reach each and every element/limitation in Claim 1 to satisfy a proper obviousness rejection. Khan effectively admits using a screen 30 having apertures 32 in a grid pattern which is in contact with the upper frame portion 12. (Khan, Paragraph 0020). In other words, the screen 30 with grid pattern is a mask, which is not what is recited in Claim 1. Accordingly, Claim 1 is patentable over the combination of Roitman and Khan.”.

A screen is simply a material having a pattern of holes as is conventionally understood in screen printing adhesives as evidenced by the background of Chen. Claims 1 and 13 require “a mask-less grid” wherein a screen is considered a type of grid, and a mask-less grid is interpreted as simply a grid without an additional mask applied thereto. There is no disclosure in Khan and/or Ringleben and/or Chen and/or Watanabe that the screens/grids have an additional masking material applied thereto such that the screens/grids are considered mask-less. Further, regarding applicants argument that “screen 30 with a grid pattern is a mask”, applicants claims are not commensurate in scope with this argument as the claims do not preclude the grid itself from acting as a mask as clearly in the same manner applicants mask-less grid is still a grid and can be considered to act as a mask.

Art Unit: 1791

Applicants further argue, "Regarding Ringleben, Ringleben cannot be used in a 35 U.S.C. 103 analysis as it is not considered prior art under 35 U.S.C. 102. Ringleben has a filing date of February 11, 2004, whereas the present application claims priority to French foreign application 03/50218 filed June 16, 2003. Accordingly, the filing date of the present application predates that of Ringleben and thus, Ringleben cannot be used as prior art."

Applicants cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR

1.55. See MPEP § 201.15.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).



Art Unit: 1791

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/  
Primary Examiner, Art Unit 1791